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WHO reform and global health

Radical restructuring is the only way ahead

See pp 1367, 1404, 1407, 1409

The world has changed since the World Health Organisation was founded nearly 50 years ago, and the pressure on WHO to change in response has never been greater. Continuing financial constraints, growing demands on the international health system, the approach of the millennium (the deadline for the Health for All initiative), and the certainty of new leadership (see p 1367)[1] in 1998, when WHO celebrates its own half century, all add to the urgency and timeliness of the debate. But what would a reformed WHO look like, and will reform mean dismantling the existing organisation and starting again? The meeting this week of the World Health Assembly in Geneva marks the beginning of a crucial year for the future of international health.

The past five years have seen the emergence of an impressive consensus about the problems of the world's health system. Analysts talk of a crisis in international health, with increasing inequities and worsening access to health care for the world's most vulnerable populations. The moves towards privatisation and tertiary care are mirrored by reduced emphasis on and provision of primary and preventive care. Lack of coordination between international agencies has meant duplication of effort, confusion, and waste of resources.

With its narrow, top down, service oriented approach to health and its centralised, hierarchical bureaucracy, WHO has proved unequal to the new challenges. Its once clear calls for equity and universal primary care have been drowned out by the World Bank's conflicting emphasis on economic growth and efficiency. Much of this can be blamed on WHO's lack of leadership and inadequate commitment from member states. In trying to please all its political constituents WHO has spread itself too thin and lost direction.[2]

The first formal call for reform came from within WHO in 1993,[3] but since then little has changed. In response to increasing financial constraints, the director general announced earlier this year that WHO would concentrate its resources on a smaller number of health issues,[4] but there have been only half hearted efforts towards the constitutional reform that would make such a change in priorities possible. And there has been no high level discussion of changes to the organisation's structure or processes. In the words of one WHO director, the changes have amounted simply to "rearranging the furniture."

But if the leadership's response to calls for reform has been little more than symbolic, elsewhere the reform debate has been gaining momentum. The past 18 months have seen at least five influential international gatherings to discuss the future of international health and to explore what a reconfigured world health organisation might look like. Two of these groups report their conclusions in this week's *BMJ* (pp 1404, 1407).[5 6] The *BMJ* has also obtained some notes on possible reforms from a recent informal meeting of WHO directors and programme managers (see below). Finally, this week's *BMJ* carries a call for a change to WHO's definition of health (p 1409), which in its current form may, the author suggests, be preventing the organisation from functioning effectively.[7]

The reports take the same general approach to their task: analysing current and future health needs, detailing the failings of the existing system, and trying to identify the main functions of an international health organisation as a guide for deciding the structure and mechanisms of a new world health system.

In this issue Frenk *et al* report the conclusions from a meeting of 21 health experts in Cuenaveva, Mexico, earlier this year, sponsored by the Rockefeller Foundation (p 1404).[5] They identified five essential core functions: surveillance and control of diseases that represent a regional or global threat; promotion of research and technological development related to problems of global importance, including mechanisms for sharing information; development of standards and norms for international certification; protection of international refugees; and providing assistance and advocacy for extremely vulnerable populations. The report's authors hope that a consensus about the core functions will emerge.

Two reports from Sweden—both sharing the same main author, Professor Goran Sterky—suggest that one of the main roles of a global health organisation should be to coordinate international health initiatives and to set international health policy.[8 9] The first report, from the Dag Hammerskjold Foundation, identifies three basic functions for a reformed organisation: providing integrated health policy guidance; providing "normative" information on what we know and what we don't; and supporting multidisciplinary research into health and health services.[8]

The second report, commissioned by Sweden's ministry of foreign affairs, concludes that the best way to achieve international cooperation in health would be through a decentralised network.[9] It suggests that this could consist of small independent organisations set up for limited periods to perform specified functions. These would tackle specific diseases or risk factors and

such issues as healthcare reform. They would have their own boards and their own finances, but they would be set up, overseen, and dissolved as necessary by the assembly of member states and its secretariat. Unlike the current secretariat, this would have a purely supportive role rather than a political one.

The advantage of such a system would be, say the authors, flexibility in response to changing demands and clear separation of the political side of the organisation (the assembly and the secretariat, where problems would be identified and analysed and solutions decided on) and the action side (the independent bodies which would put solutions into practice). There would be no regional structure and no mandatory representation in individual countries as at present, and no executive board—the director general would report directly to the assembly. All of this would release funds for use elsewhere. Funding would come, as now, from membership fees and voluntary contributions for special projects, but also from new forms of taxation of global resources (such as oceanic seabeds, the air, or the genetic diversity in natural resources) and global activities (such as foreign trade, research, and intellectual property rights).The organisational culture would encourage high staff turnover, openness, risk taking, and high professional standards and autonomy.

An equally concrete though less detailed proposal was presented recently at an internal meeting of WHO directors and programme managers. This suggested restructuring the organisation into three centres. A global health intelligence centre would collect, analyse, and disseminate information on burden of disease, epidemic surveillance, forecasting, cost-effectiveness of interventions (about which there is currently little high quality information), global health expenditures, and norms and standards. A global health policy centre would develop, test, and disseminate policy guidance on health system reform, finance and management, sustainable development, and equity. A global disease and risk factor reduction centre would consist of targeted programmes to reduce specific diseases and risk factors, focusing on the world's 15 or 20 major health problems. These would be selected on the basis of global burden of disease and would therefore relate mainly to the developing world, with tobacco being a top priority. These would be the only areas where WHO would be actively involved. For other diseases and risk factors, WHO would simply refer people to other providers of high quality information and assistance. The activities of the three centres would be coordinated by a global health strategy unit, which would focus on common functions such as planning and evaluation, training, drug quality and supply, technology, and emergency response.

While these suggested reconfigurations differ in their details, several key themes emerge. The new health challenges are global and so need a global solution. A reconfigured organisation should take the leadership role in coordinating international health initiatives and in setting the direction of international health policy. The system should incorporate a broader mix of skills and move away from the narrow biomedical model of the current organisation. It should be decentralised not only (or at all) by region but by function. Structurally it should be made up of flexible, time limited units rather than permanent programmes. It should be made more democratically accountable, both through more active participation from member states and through supervision, as originally intended, by the general assembly and the UN Economic and Social Council. Importantly, these suggestions mean recommitting to, not discarding, the principles laid down in WHO's constitution.

These reports show that the debate has moved well beyond simply looking for solutions for the problems of the existing World Health Organisation. People are now asking the more fundamental question: what type of organisation is needed to meet the world's health needs now and in the next century. Whether WHO will be able, under new leadership, to transform itself into this slimmed down, multidisciplinary, flexible animal remains to be seen. It will depend on the political will of the member states and the ability of the new leadership to identify and mobilise people committed to reform. Success may also depend on removing much of the organisation's old guard. This will be a painful process requiring a clear vision of the future, strong leadership, and disinterested support from member states.

So where should we go from here? A meeting in Pocantico, New York, in February 1996, also sponsored by the Rockefeller Foundation, suggested creating an independent, international expert commission to develop and advocate a series of immediate and long term reforms.[10] This seems a good idea. Such a commission would need to be multidisciplinary and to consult widely within and beyond WHO. All of the reports agree that the debate must be wide ranging, involving key individuals from each country—politicians interested in health, administrators, members of the research community, non-governmental organisations, and representatives of funding agencies and industry. They also emphasise that proposals should not be linked to any one candidate and should be free from national political posturing.

The next year will be crucial. It is a unique chance for the wider world to influence the future of international health. And when the World Health Assembly meets in May 1998 it should be not only to confirm the appointment of a new director general, but also to announce a commitment from all member states to radical reform of WHO's structure and processes.

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Pulmonary rehabilitation

Improves quality of life in chronic lung disease, but evaluation must continue

Chronic lung diseases cause considerable disability. In Britain, one in 10 men and one in 20 women aged over 65 suffer from chronic obstructive pulmonary disease alone, and chronic lung disease is estimated to be responsible for over 25 million lost working days each year.[1] For the vast majority of these patients—including those with smoking induced bronchitis, emphysema, and chronic severe asthma—there is no prospect of a cure. It was, and in many places still is, common practice for these patients to seek medical help and undergo investigations that establish a diagnosis, only to be told that there is very little or nothing that can be done. However, increasing evidence suggests that these patients will benefit from taking part in a multidisciplinary pulmonary rehabilitation programme.[2 3]

Pulmonary rehabilitation was born of the recognition that, while most chronic lung diseases are not amenable to cure, patients can still be helped to achieve improved quality of life. A recent workshop run by the American National Institutes of Health defined pulmonary rehabilitation as "a multidimensional continuum of services directed to persons with pulmonary disease and their families, usually by an interdisciplinary team of specialists with the goal of achieving and maintaining the individual's maximum level of independence and functioning in the community."[4] Put simply, it is an attempt at providing a one stop solution to the various problems of patients with chronic lung disease and their carers.

The components of a pulmonary rehabilitation programme vary from centre to centre (see box). Central to any programme is a well structured exercise programme aimed at improving not only respiratory muscle strength but also peripheral muscle strength and endurance. Some programmes entail hospitalisation, often for a few weeks, to allow intensive work on the patient by a range of health professionals. More recent studies suggest that home based programmes, offering obvious advantages of cost and convenience, may be equally effective.[5] Access to rehabilitation programmes is usually through the local respiratory department or chest physician, who often directs and coordinates the programme, but it is not uncommon for the programme to be run by doctors or therapists with a special interest in the subject.

What does pulmonary rehabilitation do? Are its apparent benefits simply placebo effects due to having lots of people paying attention to a previously neglected situation? Available evidence suggests that its benefits are more than this. Pulmonary rehabilitation improves quality of life as estimated by global and disease specific health measures.[2 3] Patients who complete a rehabilitation programme improve their exercise capacity[6] and physical endurance,[7] although not their lung function. They also exhibit better emotional function, feel less breathless, and feel more in control of their illness.[6] And rehabilitation is likely to reduce hospital admissions and healthcare costs in patients frequently hospitalised with chronic obstructive pulmonary disease.[8]

Programme components and core team

- Physical and exercise therapy; training respiratory and peripheral muscles—Physiotherapist
- Strategies to stop smoking—Specialist nurse
- Aids to daily living—Occupational therapist
- Patient and family education—Specialist nurse and pharmacist
- Dietary and nutritional advice—Dietician
- Psychotherapy; relaxation techniques—Clinical psychologist
- Advice on oxygen therapy and assisted ventilation; modifications to travel and lifestyle — Physician or specialist nurse
- Benefits advice, social support—Social worker

However, there are unresolved issues. It is unclear which particular components of rehabilitation programmes are the "essential" ones, and this has led to programmes of widely disparate nature and content. Related to this is the question of cost. Although rehabilitation programmes are widely regarded as expensive, data on cost and cost effectiveness remain sparse.

Also unknown is how the benefits of a rehabilitation programme can best be consolidated; for example, does continuing physical therapy at home provide any survival advantage? (Older studies suggest that it does.[9]) And who qualifies for, or benefits most from, pulmonary rehabilitation: all patients with chronic lung disease (a formidable number, with obvious resource implications) or only certain subgroups? These issues must be addressed if pulmonary rehabilitation is to achieve the "accepted therapy" status that it is laying claim to. In this regard it is essential that all pulmonary rehabilitation programmes have in place reliable methods of continuing assessment and audit.

Notwithstanding these various concerns, pulmonary rehabilitation programmes have much to offer. It is no longer acceptable for patients suffering from chronic lung disease to be dismissed with the demoralising comment: "Nothing more can be done for you."[10]

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Acupuncture: safety first

Training programmes should include basic medical knowledge and experience

Acupuncture has been used for more than 3000 years, and many proponents claim that this fact sufficiently demonstrates its safety. Yet evidence of serious, potentially life threatening complications does exist.

The use of non-sterile needles may cause infections. One overview identified 126 documented cases of hepatitis associated with acupuncture.[1] HIV infections may also be a problem. Three such cases have been reported, although a causal relation has not been established beyond reasonable doubt.[2 3] Several other potentially lethal infections have been reported. One patient contracted a subacute bacterial endocarditis due to infection with *Propionibacterium acnes* apparently via ear acupuncture.[4] Similar cases of infection with *Pseudomonas aeruginosa*[5] and *Staphylococcus aureus*[6] are on record. Three cases (one fatal) of staphylococcal septicaemia and one of bilateral psoas abscesses due to S*taphylococcus aureus* have also been reported.[7-10] Collectively, the evidence linking acupuncture with serious infections is compelling.

The insertion of an acupuncture needle causes tissue trauma, which can lead to complications. At least 65 cases of pneumothorax have been reported.[1] There are also several reports of cardiac tamponade, one fatal.[11] Other serious complications of acupuncture range from retained needles to injury of peripheral nerves or spinal cord.[12] There can be little doubt about a causal relation between acupuncture and these adverse events.

Thus, neither acupuncture nor acupuncturists are entirely safe. Some form of control on the practice is therefore essential. Statutory regulation along the lines of Britain's Osteopath Act is unlikely because of fundamental disagreements on the definition of acupuncture. Traditional acupuncturists employ a hypothetical system of meridians, whereas scientific acupuncturists (mainly doctors and physiotherapists) regard acupuncture as a form of segmental nerve stimulation or trigger point inactivation. But principles of safe treatment can be agreed by both camps. Regulation dealing exclusively with safety is required until the question of efficacy is more solidly underpinned by research. Such regulation would establish norms of safe practice, including the duty to warn of material risks. Standards are essential for negligence claims to proceed.

As the professional status of properly trained but non-medically qualified acupuncturists increases, the issue of indirect safety will arise more often. Patients are increasingly likely to consult such practitioners in the early stages of major disease, when symptoms may still be non-specific. One British survey suggests that more than a third of complementary practitioners' patients have not consulted a doctor during the present episode of illness.[13] It seems inevitable that practitioners need some orthodox diagnostic skills and a knowledge of therapeutics to identify their own and their treatment's limits. Acupuncture training programmes should include basic knowledge and experience of mainstream medicine. Overoptimistic prognoses naively based on the theory of Chi would then become more realistic. Similar considerations are also relevant to other complementary therapies such as homoeopathy and medical herbalism.

Until full blown registration is feasible, new ideas and unique solutions are required. Statutory arrangements are not failsafe. Medically trained acupuncturists are by no means innocent of causing adverse effects, although they are generally better equipped for recognising and coping with them. A system of self regulation across the profession, firmly based on ethical principles, is likely to gain support from patient organisations as well as official bodies. Such regulation should now be established. We simply owe it to our patients.

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Gestational trophoblastic disease

Neoplasia or pregnancy failure?

The term gestational trophoblastic disease includes hydatidiform moles, invasive hydatidiform moles, and choriocarcinoma. However, many gynaecologists and oncologists seem to consider that these conditions represent a neoplastic spectrum, with moles at the benign end, choriocarcinoma at the malignant extreme, and invasive hydatidiform moles being equivalent to a neoplasm of borderline malignancy. I would argue that there is nothing to suggest that a hydatidiform mole of any type is a form of neoplasia. Both partial and complete hydatidiform moles are chromosomally abnormal pregnancies: the complete moles are androgenetic pregnancies, all their nuclear DNA being paternally derived,[1] and partial hydatidiform moles are triploid gestations,[2] in which the extra chromosomal load is of paternal origin.[3]

At first sight invasive hydatidiform moles seem better candidates for being classed as neoplasms because they penetrate into or through the myometrium and invade the uterine vasculature, allowing molar tissue to spread through the blood stream to extrauterine sites. However, normal trophoblast has the ability to invade both the myometrium and the uterine vessels,[4] while villi from a normal placenta can invade deeply into, or even through, the uterine wall to produce a placenta increta or percreta.

The fact that molar trophoblast is transported to extrauterine sites is also not an indication of neoplastic behaviour. Trophoblast enters the maternal blood stream in every normal pregnancy and is transported to sites such as the lung.[5] Hence both invasiveness and metastatic spread are features of normal trophoblast, and an invasive mole is, as are all moles, an abnormal pregnancy in which the trophoblast is displaying its normal characteristics, albeit to a somewhat exaggerated degree.

Choriocarcinomas may follow either a normal pregnancy or, much more commonly, a molar pregnancy, and the time interval between the antecedent pregnancy and the clinical presentation of a choriocarcinoma ranges from a few weeks to 15 years. There is a considerable gap in our knowledge of the relation between the pregnancy and the subsequent choriocarcinoma. Is the neoplasm actually derived from the trophoblast of the pregnancy and, if so, what has been happening to this trophoblast during the intervening period?

Some points are becoming clearer. It is increasingly probable that most or even all choriocarcinomas that follow an apparently normal pregnancy are in reality metastases from an undetected small intraplacental choriocarcinoma. Such choriocarcinomas are easily overlooked unless the placenta is meticulously examined: one patient developed what seemed to be a primary choriocarcinoma soon after a normal pregnancy, but re-examination of the placenta revealed a tiny intraplacental choriocarcinoma.[6]

Are choriocarcinomas that follow a molar gestation similarly derived from an intramolar choriocarcinoma? This is certainly a possibility—one such lesion has been described, although it was not associated with subsequent disease.[7] In many cases, however, the prolonged interval between a molar pregnancy and the development of an overt choriocarcinoma suggests that most postmolar choriocarcinomas are not metastases from intramolar choriocarcinomas. Nevertheless, the application of genetic techniques has shown that some but not all choriocarcinomas are androgenetic and are genetically identical to a previous molar gestation.[8 9] In two such cases there had been a normal delivery at full term intervening between the molar pregnancy and the development of the choriocarcinoma, and in one of these the time interval between the mole and the choriocarcinoma was 10 years.[9] It is difficult to understand how tissue from the mole remained in the uterus for that length of time and throughout a later normal pregnancy and subsequently underwent a resurgence.

Some postmolar choriocarcinomas are biparental, which raises the possibility that they are in fact new pregnancies, the choriocarcinoma ab initio that has long been proposed.[10] There seems no good reason why a pregnancy, androgenetic or biparental, should not evolve directly into a choriocarcinoma. This raises the question of whether choriocarcinomas of this type should be considered as truly neoplastic or simply as aberrant gestations. It is true that they invade vessels and spread to distant sites, but so does normal trophoblast; histologically, they closely resemble the trophoblast of a normal implanting blastocyst; and their response to methotrexate is not unlike that of a normal but ectopic early gestation.

Fortunately, the conceptual problems raised by choriocarcinoma are not mirrored in the management of this disease. The introduction of effective chemotherapy has transformed a condition that was often fatal into one that is readily curable. However, with the exception of some germ cell neoplasms (which may also be aberrant pregnancies), the same degree of success has not been achieved in the chemotherapeutic management of solid tumours of any organ: this may well indicate that the rather equivocal nature of some choriocarcinomas makes them an atypical model for the study of malignant disease.

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Ice cream headache

No need for abstinence

All sorts of things can cause headache. For migraineurs, attacks can be provoked by chocolate, cheese, cured meats, or non-food such as stress or changes in sleep habits. Headaches can herald serious neurological disease. Some people have a benign type of headache provoked by coughing or, rarely, by coitus. Many people feel that headaches are caused by eye strain or chronic sinus problems, although probably they are not.

The most common cause of head pain is ice cream, occurring in one third of a randomly selected population.[1] It occurs regardless of whether someone suffers from other types of headache. Children know all about ice cream headache, although I have found that they know it best by the descriptive term "brain freeze."

The pain begins a few seconds after the rapid ingestion of cold foods or beverages and peaks in 30-60 seconds. The pain is usually located in the midfrontal area, but can be unilateral in the temporal, frontal, or retro-orbital region. It is a stabbing or aching type of pain that recedes 10-20 seconds after its onset. Rarely, it persists for two to five minutes.[2] Studies have been conflicting as to whether ice cream headache is more common in people who experience migraine. Raskin and Knittle found this to be the case, with ice cream headache occurring in 93% of migraine sufferers and in only 31% of controls.[3] However, a subsequent study found ice cream headache to be more common in people without migraine.[2] These inconsistencies may be due to differences in subject selection—the subjects of the first study were drawn from a hospital population, whereas the controls in the second were student volunteers. While ice cream headaches are usually benign and brief, migraines are occasionally triggered by the cold stimulus.[2]

Ice cream headache has been studied as an example of referred pain.[4 5] Experimenting on himself, Smith characterised the features of the headache.[5] Applying crushed ice to the palate, he found that ipsilateral temporal and orbital pain developed 20-30 seconds later. Bilateral pain occurred when the stimulus was applied in the midline. The headache could be elicited only in hot weather; attempts to reproduce the pain during the winter were unsuccessful, even with use of a cold stimulus of the same temperature. Bird *et al* found a similar relation with respect to site of application of the cold substance and ipsilateral occurrence of the resultant pain.[2] Some of their subjects also experienced an associated toothache.

The vascular mechanisms invoked to explain the features of migraine were also applied to ice cream headache. Wolf and Hardy characterised cold induced pain in the hand, showing that pulsation in the digital artery diminished in proportion to the intensity of pain and that injection of vasopressin increased the intensity of pain.[6] Smith observed that the blanching and subsequent redness of the fingers associated with cold induced pain pointed to vascular mechanisms, with pain occurring when the fingers showed erythema and increased blood flow.[5] A similar progression from constriction to dilatation has been invoked as the mechanism underlying the aura and pulsatile pain phases of migraine. Primary neural mechanisms are now thought to underlie these vascular features.

Raskin has suggested that ice cream headache may represent a model of migraine, in that both encompass disordered thresholds to sensory stimuli.[1] It would be of interest to determine whether antimigraine drugs that modulate serotonergic pathways have any effect on ice cream headache.

No treatment is usually required, and sufferers rarely seek medical attention. Since the posterior aspect of the palate is most likely to produce the referred pain of ice cream headache, avoiding contact of the cold food with this area can effectively eliminate the symptoms. Most people arrive at such preventive measures without the advice of doctors. Ice cream abstinence is not indicated.

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